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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/761,659 | 01/20/2004 | Yen-Hsiung Tseng | 67,200-1224 | 3385 |

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EXAMINER

MOORE, KARLA A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1763

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

10/761,659

Applicant(s)

TSENG ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this c mmunicati n appears on the cover sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,697,750 to Fishkin et al.

3. Fishkin et al. disclose a load lock chamber comprising: a chamber wall (16) defining a chamber interior; a bellows housing (40) defined by said chamber wall; a lift shaft opening (on lower surface of 40) provided in said bellows housing and sealing said shaft opening from said chamber interior; a lift shaft (24) having a cassette stage (26) extending through said shaft opening and said bellows into said chamber interior; a bellows mount frame (26) carried by said lift shaft; and a flexible bellows (38) carried by said bellows mount frame in said bellows housing and sealing said shaft opening from said chamber interior for positioning said cassette stage within said chamber interior at a wafer transfer position level.

4. The load lock further comprises a shaft rotation device (32) sealably isolated from said chamber interior by said bellows and operably engaging said lift shaft for rotating without raising said lift shaft an said cassette stage in said chamber interior to said wafer transfer position. In order to approach a wafer transfer position, the shaft rotation device rotates and *lowers* the shaft and cassette.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3-4, 7-8 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. as applied to claims 1 and 10 above in view of U.S. Patent No. 4,908,095 to Kagatsume et al.

8. Fishkin et al. disclose the invention substantially as claimed and as described above.

9. However, Fishkin et al. fail to teach said bellows comprises a metal alloy, such as stainless steel.

10. Kagatsume et al. teach providing a bellows comprising a metal alloy in a processing apparatus for the purpose of shielding dust (column 5, rows 52-57).

11. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided bellows comprising a metal alloy in Fishkin et al. in order to shield dust as taught by Kagatsume et al.

12. Claims 5, 14, 17, 20 and 22 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. as applied to claims 1 and 10 above in view of U.S. Patent No. 5,324,540 to Terada.

13. Fishkin et al. disclose the invention substantially as claimed and as described above.

14. However, Fishkin et al. fail to teach said shaft rotation device comprises a housing and a housing magnet provided in said housing for magnetically rotating said lift shaft.

15. Terada teaches the use of an annular housing magnet (Figure 2, 26) and a magnet housing (66) as rotation means of a shaft in a processing apparatus for the purpose of providing a mechanism that can

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provide the necessary rotation and also allow for particles caused by the rotation to be confined and not enter into a processing region, thus preventing contamination (column 7, rows 43-49).

16. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a magnet and housing for the magnet as rotation means in Fishkin et al. in order to provide the necessary rotation and also allow particles caused by the rotation to be confined and not enter into a processing region, thus preventing contamination as taught by Terada.

17. With respect to claim 22, Fishkin et al. discloses the invention substantially as claimed and as described above.

18. However, Fishkin et al. fail to explicitly teach the rotation device disposed within the bellows.

19. As is well known in the art, the bellows are provided to enclose moving parts from an atmosphere where cleanliness is of concern. Fishkin et al. fairly teach that the bellows are provided for controlling the atmosphere within the transfer chamber (column 5, rows 8-30). One of ordinary skill in the art would realize that by extending the bellows further so that the rotation device was also disposed within the bellows increased control of the atmosphere could be achieved.

20. It would have been obvious at the time the Applicant's invention was made to have provided extended bellows so that the rotation device was also disposed within the bellows in Fishkin et al. in order to provide increased control of the atmosphere of the transfer chamber as taught by Fishikin et al.

21. Claims 6, 15-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. and Terada as applied to claim 5, 14, 17, 20 and 22 above, and further in view of U.S. Patent No. 4,908,095 to Kagatsume et al.

22. Fishkin et al. and Terada disclose the invention substantially as claimed and as described above.

23. However, Fishkin et al. and Terada fail to teach said bellows comprises a metal alloy, such as stainless steel.

24. Kagatsume et al. teach providing a bellows comprising a metal alloy in a processing apparatus for the purpose of shielding dust (column 5, rows 52-57).

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25. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided bellows comprising a metal alloy in Fishkin et al. and Terada in order to shield dust as taught by Kagatsume et al.

26. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. and Kagatsume et al. as applied to claims 3-4, 7-8 and 12-13 above, and further in view of U.S. Patent No.5,324,540 to Terada.

27. Fishkin et al. and Kagatsume et al. disclose the invention substantially as claimed and as described above.

28. However, Fishkin et al. and Kagatsume et al. fail to teach said shaft rotation device comprises a housing and a housing magnet provided in said housing for magnetically rotating said lift shaft.

29. Terada teaches the use of a magnet (Figure 2, 26) and a magnet housing (66) as rotation means of a shaft in a processing apparatus for the purpose of providing a mechanism that can provide the necessary rotation and also allow for particles caused by the rotation to be confined and not enter into a processing region, thus preventing contamination (column 7, rows 43-49).

30. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a magnet and housing for the magnet as rotation means in Fishkin et al. and Kagatsume et al. in order to provide the necessary rotation and also allow particles caused by the rotation to be confined and not enter into a processing region, thus preventing contamination as taught by Terada.

31. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over as being unpatentable over Fishkin et al. as applied to claims 1 and 10 above.

32. Fishkin et al. discloses the invention substantially as claimed and as described above.

33. However, Fishkin et al. fail to explicitly teach the rotation device disposed within the bellows.

34. As is well known in the art, the bellows are provided to enclose moving parts from an atmosphere where cleanliness is of concern. Fishkin et al. fairly teach that the bellows are provided for controlling the atmosphere within the transfer chamber (column 5, rows 8-30). One of ordinary skill in the art would

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realize that by extending the bellows further so that the rotation device was also disposed within the bellows increased control of the atmosphere could be achieved.

35. It would have been obvious at the time the Applicant's invention was made to have provided extended bellows so that the rotation device was also disposed within the bellows in Fishkin et al. in order to provide increased control of the atmosphere of the transfer chamber as taught by Fishikin et al.

Response to Arguments

54. Applicant's arguments filed 30 March 2006 have been fully considered but they are not persuasive. As noted above, Fishkin et al. does, in fact, disclose a flexible bellows for positioning said cassette stage within said chamber interior at a wafer transfer position level and a shaft rotation device sealably isolated from said chamber interior by said bellow and operably engaging said lift shaft for rotating without raising said lift shaft and said cassette stage in said chamber interior to said wafer transfer position.

55. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In the present action, motivation to combine Fishkin et al. with Kagatsume can be found in Kagatsume (see paragraph 10 above). Motivation to combine Fishkin et al. with Terada can be found in Terada (see paragraph 15 above).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore
Primary Examiner
Art Unit 1763
8 June 2008